



Catalyst 6500 Series PFC3B and PFC3BXL Installation Note

Product number: WS-F6K-PFC3B=, WS-F6K-PFC3BXL=

This publication describes how to install the Catalyst 6500 Series Policy Feature Card 3B (PFC3B) or PFC3BXL on a Supervisor Engine 720.



Note

To use the PFC3BXL, you must also upgrade the switch processor (SP) and route processor (RP) memory on the Supervisor Engine 720 to 1 GB each using the included DRAM DIMMs. For information on upgrading the memory on the Supervisor Engine 720, refer to the *Supervisor Engine 720 Switch Processor and Route Processor Memory Installation Note* at this URL:

http://www.cisco.com/univercd/cc/td/doc/product/lan/cat6000/cfgnotes/78_15538.htm

The Supervisor Engine 720 memory upgrade (MEM-MSFC2-1GB=) is an option when using the PFC3B.



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Contents

This publication contains these sections:

- [Safety Overview, page 2](#)
- [Parts List, page 3](#)
- [Required Tools, page 3](#)
- [Installation Guidelines, page 4](#)
- [Preparing the Supervisor Engine 720, page 5](#)
- [Removing the PFC3A from the Supervisor Engine 720, page 5](#)
- [Installing the PFC3B, page 7](#)
- [Applying the Label to the Supervisor Engine, page 12](#)
- [Troubleshooting, page 13](#)
- [Related Documentation, page 13](#)
- [Obtaining Documentation, page 13](#)
- [Documentation Feedback, page 14](#)
- [Obtaining Technical Assistance, page 14](#)
- [Obtaining Additional Publications and Information, page 16](#)

Safety Overview

Safety warnings appear throughout this publication in procedures that, if performed incorrectly, may harm you. A warning symbol precedes each warning statement.



Warning

IMPORTANT SAFETY INSTRUCTIONS

This warning symbol means danger. You are in a situation that could cause bodily injury. Before you work on any equipment, be aware of the hazards involved with electrical circuitry and be familiar with standard practices for preventing accidents. Use the statement number provided at the end of each warning to locate its translation in the translated safety warnings that accompanied this device. Statement 1071

SAVE THESE INSTRUCTIONS



Warning

Only trained and qualified personnel should be allowed to install, replace, or service this equipment. Statement 1030



Warning

Hazardous voltage or energy is present on the backplane when the system is operating. Use caution when servicing. Statement 1034

**Warning**

Blank faceplates and cover panels serve three important functions: they prevent exposure to hazardous voltages and currents inside the chassis; they contain electromagnetic interference (EMI) that might disrupt other equipment; and they direct the flow of cooling air through the chassis. Do not operate the system unless all cards, faceplates, front covers, and rear covers are in place. Statement 1029

**Warning**

This unit is intended for installation in restricted access areas. A restricted access area can be accessed only through the use of a special tool, lock and key, or other means of security. Statement 1017

Parts List

These parts are in the WS-F6K-PFC3B= or WS-F6K-PFC3BXL= kit:

- One Catalyst 6500 series PFC3B or PFC3BXL
- One packet of labels
- One disposable grounding wrist strap
- One bag of mounting screws
- Two 1-GB DRAM DIMMs (to be installed on the Supervisor Engine 720 switch processor and route processor) — PFC3BXL only

Required Tools

**Note**

In this section, the term "PFC3B" refers to the PFC3B and PFC3BXL unless otherwise noted.

These tools are required to perform the installation of the PFC3B:

- Antistatic mat or foam pad to support the removed Supervisor Engine 720
- 3/16-inch flat-blade screwdriver for the captive installation screws on the Supervisor Engine 720
- Number 1 Phillips screwdriver for the screws and cap nut that fasten the PFC3B to the Supervisor Engine 720
- Your own ESD-prevention equipment or the disposable grounding wrist strap included with all upgrade kits, field-replaceable units (FRUs), and spares

Installation Guidelines

Follow these guidelines when installing a PFC3B or PFC3BXL on a Supervisor Engine 720:

- If you have redundant Supervisor Engine 720s, the hardware on both supervisor engines must be identical. You cannot have a mix of PFC3A, PFC3B, or PFC3BXL in the same chassis. You must shut down the switch to install the PFC3B or PFC3BXL, even if you have redundant supervisor engines.
- If you have redundant Supervisor Engine 720s, you *must* install the PFC3B or PFC3BXL on each Supervisor Engine 720.
- Observe the following cautions:

**Caution**

Always use an ESD wrist strap when handling modules or coming into contact with internal components.

**Caution**

Use care not to damage the connectors on the supervisor engine. If you damage a connector, you will have to return the supervisor engine to Cisco for repair.

**Caution**

Ensure that the PFC3B or PFC3BXL is securely seated before you install and tighten the cap nut and the securing screws. If you use the screws to seat the PFC3B or PFC3BXL, the card might warp.

**Caution**

You *must* install all screws. The screws provide grounding between the PFC3B or PFC3BXL and the supervisor engine. Failure to install all screws will invalidate the safety approvals and can cause fire and electrical hazards.

**Caution**

The hardware on both supervisor engines in a single chassis must be identical. If you have redundant supervisor engines, you *must* install a PFC3B or PFC3BXL on each Supervisor Engine 720.

Preparing the Supervisor Engine 720


Note

In this section, the term "PFC3B" refers to the PFC3B and PFC3BXL unless otherwise noted.

To install the PFC3B on a Supervisor Engine 720, you must shut down the switch, remove the Supervisor Engine 720 from the chassis, and remove the PFC3A from the Supervisor Engine 720.


Caution

Always use an ESD wrist strap when handling modules or coming into contact with internal components.

Before you remove a supervisor engine, you should first upload the current configuration to a server. This saves time when bringing the module back online. You can recover the configuration by downloading it from the server to the nonvolatile memory of the supervisor engine. For more information, refer to Chapter 26, "Working with Configuration Files," in the *Catalyst 6500 Series Software Configuration Guide*.

To prepare the Supervisor Engine 720 for the PFC3B, follow these steps:

-
- Step 1** Upload the current configuration to a server. On any modules running Cisco IOS software, save the running configuration.
 - Step 2** Shut down the switch.
 - Step 3** Remove the Supervisor Engine 720 from the Catalyst 6500 series switch. (Refer to the *Catalyst 6500 Series Switch Module Installation Guide* for removal instructions.)
 - Step 4** Place the Supervisor Engine 720 on an antistatic mat or foam.
-

Removing the PFC3A from the Supervisor Engine 720

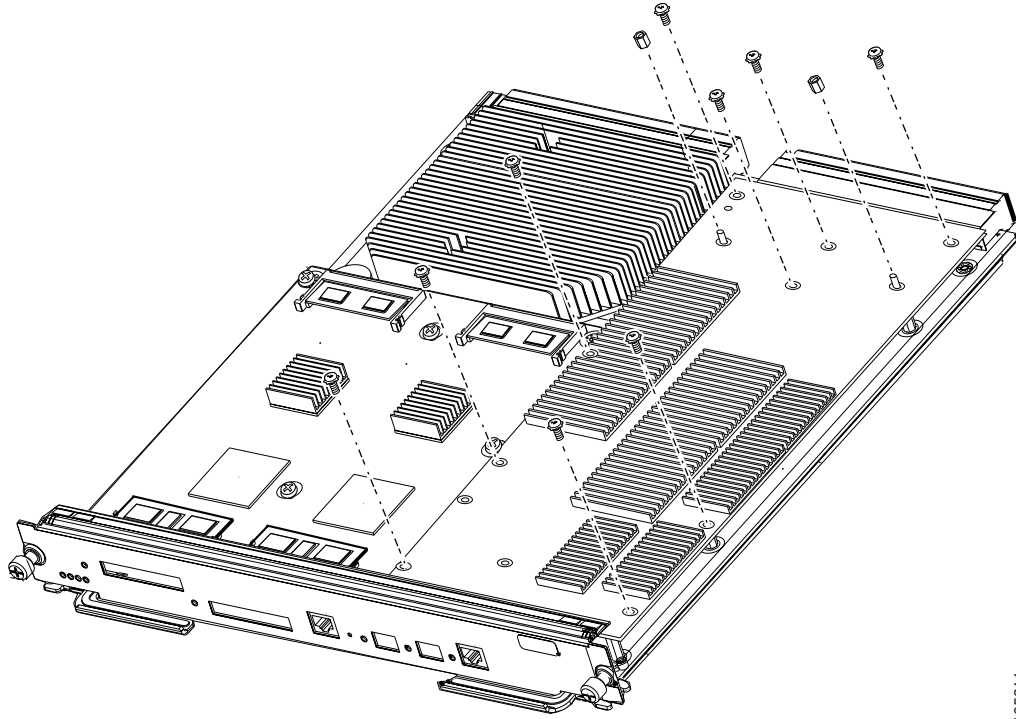
To remove the PFC3A from the Supervisor Engine 720, follow these steps:

-
- Step 1** Remove the nine securing screws and two cap nuts. (See [Figure 1](#).)


Note

Set the removed screws and cap nuts aside. Use the supplied screws and cap nuts when securing the PFC3B or PFC3BXL to the Supervisor Engine 720.

Figure 1 Removing Securing Screws and Cap Nuts



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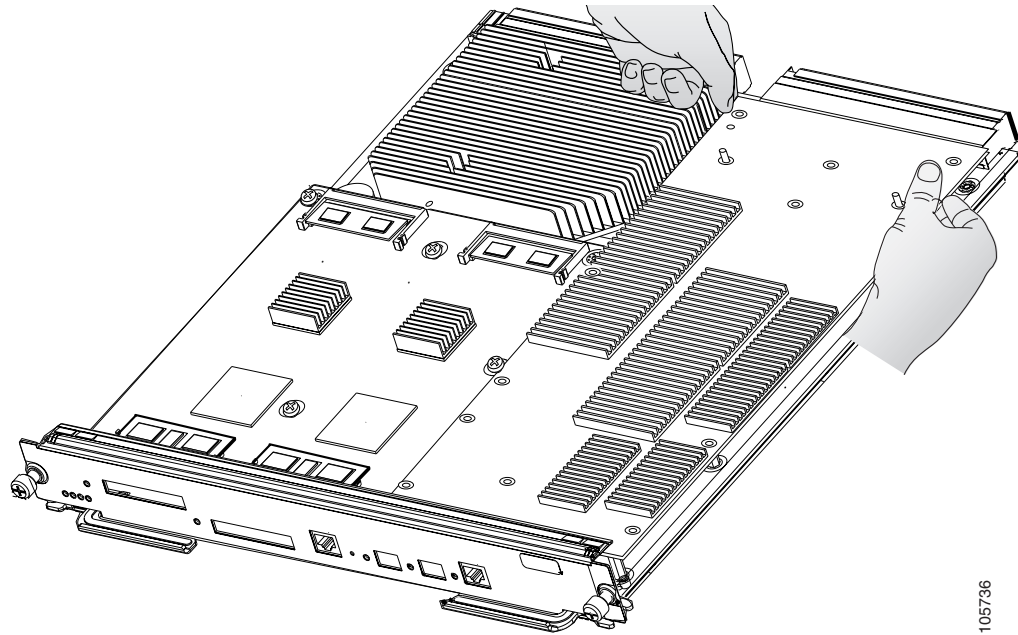

Caution

Use care not to damage the connectors on the supervisor engine. If you damage a connector, you will have to return the supervisor engine to Cisco for repair.

Step 2

Hold the right edge of the PFC3A with your right hand and the rear left corner with your left hand. (See [Figure 2](#).) Gently lift the PFC3A with both hands simultaneously and remove the PFC3A from the Supervisor Engine 720.

Figure 2 Removing the PFC3A



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- Step 3** Place the PFC3A on an antistatic mat or antistatic foam pad.

Installing the PFC3B

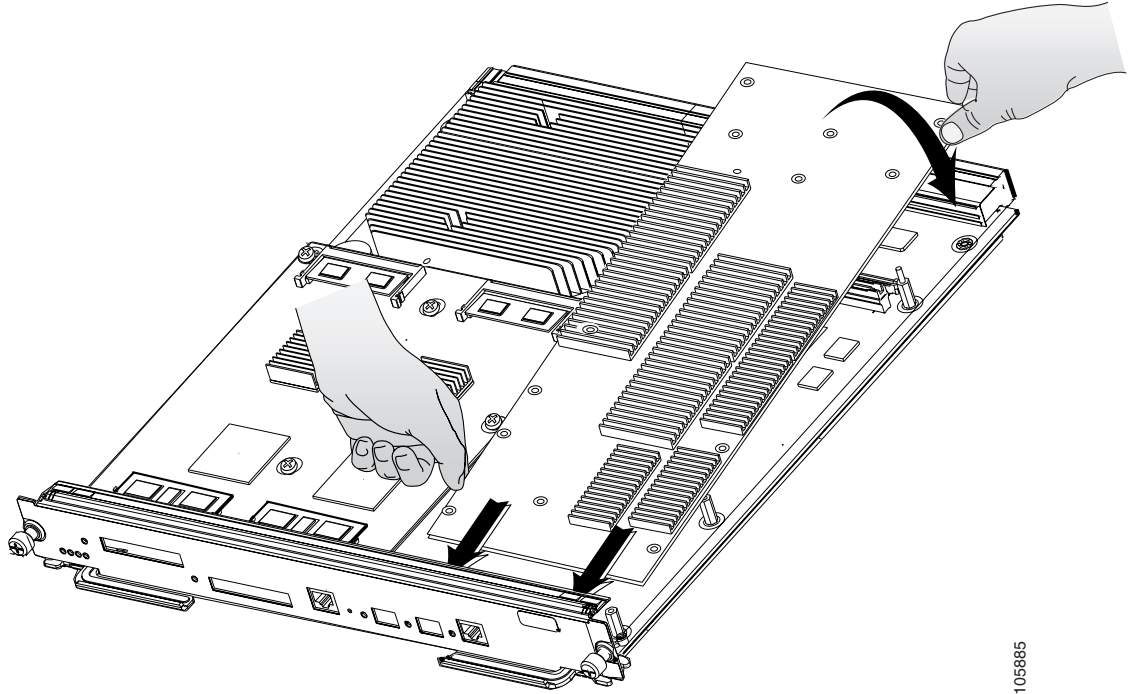


Note In this section, the term "PFC3B" refers to the PFC3B and PFC3BXL unless otherwise noted.

To install the PFC3B on the Supervisor Engine 720, follow these steps:

- Step 1** Remove the PFC3B from its antistatic bag.
- Step 2** Insert the front edge of the PFC3B under the EMI gasket on the Supervisor Engine 720. (See [Figure 3.](#))

Figure 3 Inserting the PFC3B Under the EMI Gasket

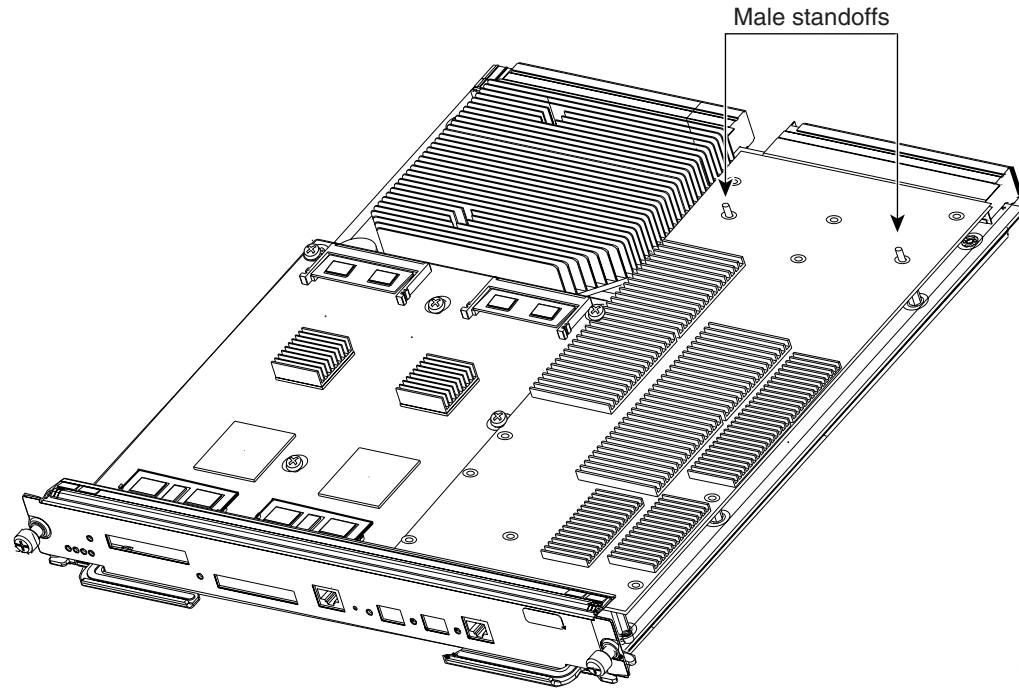


Caution

Use care not to damage the connectors on the supervisor engine. If you damage a connector, you will have to return the supervisor engine to Cisco for repair.

Step 3

Align the PFC3B with the male standoffs on the Supervisor Engine 720, and carefully seat the PFC3B onto the Supervisor Engine 720. (See [Figure 4](#).)

Figure 4 Male Standoff Location on the Supervisor Engine 720

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**Caution**

Ensure that the PFC3B is securely seated before you install and tighten the cap nut and the securing screws. If you use the screws to seat the PFC3B, the card might warp.

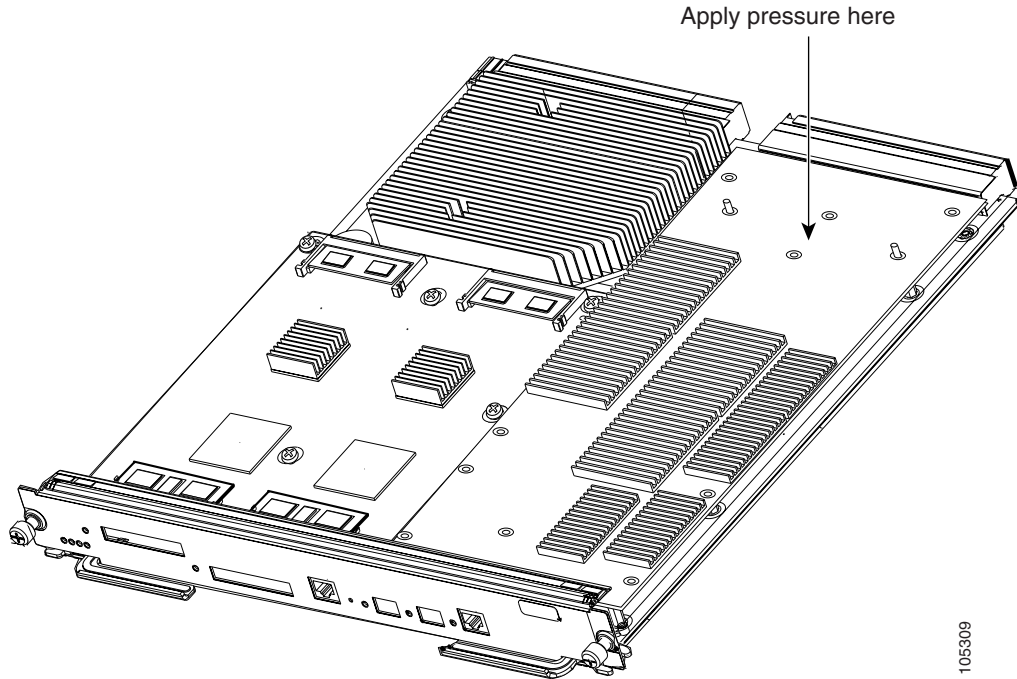
**Caution**

Use care not to damage the connectors on the supervisor engine. If you damage a connector, you will have to return the supervisor engine to Cisco for repair.

Step 4

Using your thumbs, apply pressure at the locations shown in [Figure 5](#) to ensure that the PFC3B is securely seated on the Supervisor Engine 720.

Figure 5 Seating the PFC3B on the Supervisor Engine



Caution

You *must* install all screws. The screws provide grounding between the PFC3B and the supervisor engine. Failure to install and tighten all screws will invalidate the safety approvals and can cause fire and electrical hazards.

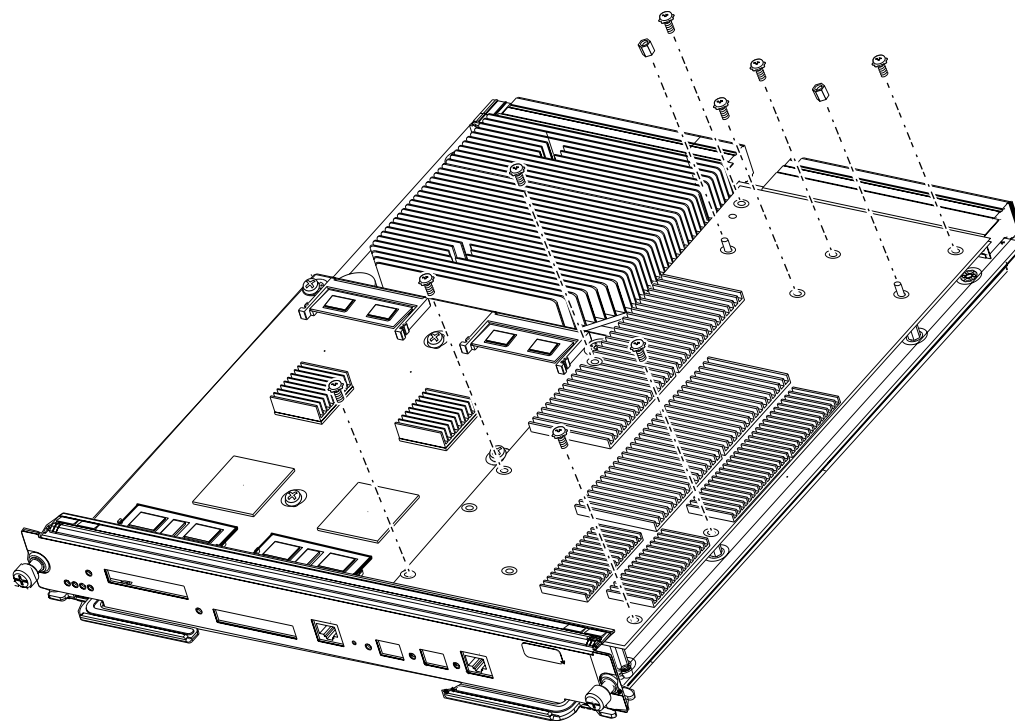


Note

Use the supplied screws and cap nuts to secure the PFC3B to the Supervisor Engine 720.

Step 5

Use a Phillips-head screwdriver to install the supplied screws and cap nuts that secure the PFC3B to the Supervisor Engine 720. (See [Figure 6](#).)

Figure 6 Installing the Supplied Screws

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**Note**

To use the PFC3BXL, you must also upgrade the switch processor (SP) and route processor (RP) memory on the Supervisor Engine 720 to 1 GB each using the included DRAM DIMMs. For information on upgrading the memory on the Supervisor Engine 720, refer to the *Supervisor Engine 720 Switch Processor and Route Processor Memory Installation Note* at this URL:

http://www.cisco.com/univercd/cc/td/doc/product/lan/cat6000/cfgnotes/78_15538.htm

The Supervisor Engine 720 memory upgrade (MEM-MSFC2-1GB=) is an option when using the PFC3B.

- Step 6** If you installed a PFC3BXL, upgrade the SP and RP memory on the Supervisor Engine 720 if you have not done so already.
- Step 7** Install the Supervisor Engine 720 in the Catalyst 6500 series switch. (Refer to the *Catalyst 6500 Series Switch Module Installation Guide* for installation instructions.)

**Caution**

The hardware on both supervisor engines in a single chassis must be identical. If you have redundant supervisor engines, you *must* install the PFC3B or PFC3BXL on each Supervisor Engine 720.

- Step 8** If you are installing a PFC3B on a redundant Supervisor Engine 720, go to [Step 3](#) in the “[Preparing the Supervisor Engine 720](#)” section on [page 5](#) and follow the procedure for removing the supervisor engine.
- Step 9** Power up the switch.

Step 10 Depending on the software running on the switch, do one of the following steps to verify the installation:

- Cisco IOS software on the supervisor engine and the MSFC3
Verify that the switch is online. This indicates that the system acknowledges the new module and has brought it online.
- Catalyst supervisor engine software on the supervisor engine and Cisco IOS software on the MSFC3
Enter the **show module** command to verify that the system acknowledges the new module and has brought it online.

This example shows the output of the **show module** command:

```

Console> show module
Mod Slot Ports Module-Type           Model                Sub Status
-----
1   1   48   10/100BaseTX Ethernet      WS-X6248-RJ-45       no ok
5   5   2   1000BaseX Supervisor    WS-SUP720-BASE      yes ok
15  5   1   Multilayer Switch Feature WS-SUP720            no ok
...

Mod Sub-Type           Sub-Model           Sub-Serial  Sub-Hw Sub-Sw
-----
5   L3 Switching Engine III WS-F6K-PFC3BXL     SAD073702HH 0.250

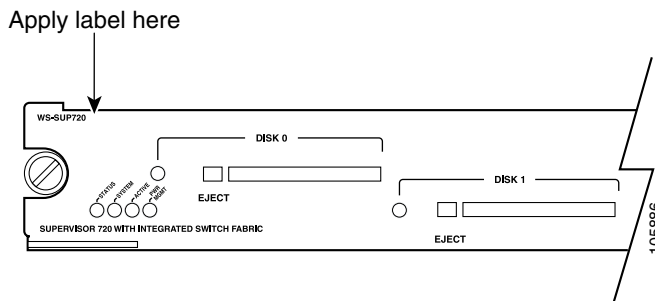
Console>
    
```

If the installation is not successful, see the “[Troubleshooting](#)” section on page 13 for troubleshooting information.

Applying the Label to the Supervisor Engine

The WS-F6K-PFC3B= and WS-F6K-PFC3BXL= kits include a packet of labels. Apply the “PFC3B” or “PFC3BXL” label to the upper-left corner of the Supervisor Engine 720 front panel. (See [Figure 7](#).)

Figure 7 Applying the Label



Troubleshooting

Table 1 describes the basic troubleshooting information.

Table 1 Troubleshooting

Problem	Solution
The supervisor engine fails online diagnostics.	Remove the supervisor engine from the chassis and make sure that all securing screws and cap nuts are tight. See Figure 6 for screw locations.
The supervisor engine experiences a software-forced reset or boots to ROMMON.	
The supervisor engine does not boot up (no power to supervisor engine, no console prompt, no STATUS LED).	Remove the supervisor engine from the chassis and reseal the SP and RP memory modules.

If these solutions do not resolve the issue, see the [“Obtaining Technical Assistance”](#) section on page 14 for information on obtaining technical assistance.

Related Documentation

For additional information on Catalyst 6500 series switches and command-line interface (CLI) commands, refer to the following publications:

- *Regulatory Compliance and Safety Information for the Catalyst 6500 Series Switches*
- *Catalyst 6500 Series Switch Installation Guide*
- *Catalyst 6500 Series Switch Module Installation Guide*
- *Catalyst 6500 Series Switch Software Configuration Guide*
- *Catalyst 6500 Series Switch Command Reference*
- *Catalyst 6500 Series Switch Cisco IOS Software Configuration Guide*
- *Catalyst 6500 Series Switch Cisco IOS Command Reference*
- *Catalyst 6500 Series System Message Guide*

Obtaining Documentation

Cisco documentation and additional literature are available on Cisco.com. Cisco also provides several ways to obtain technical assistance and other technical resources. These sections explain how to obtain technical information from Cisco Systems.

Cisco.com

You can access the most current Cisco documentation at this URL:

<http://www.cisco.com/univercd/home/home.htm>

You can access the Cisco website at this URL:

<http://www.cisco.com>

You can access international Cisco websites at this URL:

http://www.cisco.com/public/countries_languages.shtml

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http://www.cisco.com/univercd/cc/td/doc/es_inpk/pdi.htm

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Cisco Technical Support Website

The Cisco Technical Support Website provides online documents and tools for troubleshooting and resolving technical issues with Cisco products and technologies. The website is available 24 hours a day, 365 days a year at this URL:

<http://www.cisco.com/techsupport>

Access to all tools on the Cisco Technical Support Website requires a Cisco.com user ID and password. If you have a valid service contract but do not have a user ID or password, you can register at this URL:

<http://tools.cisco.com/RPF/register/register.do>

Submitting a Service Request

Using the online TAC Service Request Tool is the fastest way to open S3 and S4 service requests. (S3 and S4 service requests are those in which your network is minimally impaired or for which you require product information.) After you describe your situation, the TAC Service Request Tool automatically provides recommended solutions. If your issue is not resolved using the recommended resources, your service request will be assigned to a Cisco TAC engineer. The TAC Service Request Tool is located at this URL:

<http://www.cisco.com/techsupport/servicerequest>

For S1 or S2 service requests or if you do not have Internet access, contact the Cisco TAC by telephone. (S1 or S2 service requests are those in which your production network is down or severely degraded.) Cisco TAC engineers are assigned immediately to S1 and S2 service requests to help keep your business operations running smoothly.

To open a service request by telephone, use one of the following numbers:

Asia-Pacific: +61 2 8446 7411 (Australia: 1 800 805 227)

EMEA: +32 2 704 55 55

USA: 1 800 553 2447

For a complete list of Cisco TAC contacts, go to this URL:

<http://www.cisco.com/techsupport/contacts>

Definitions of Service Request Severity

To ensure that all service requests are reported in a standard format, Cisco has established severity definitions.

Severity 1 (S1)—Your network is “down,” or there is a critical impact to your business operations. You and Cisco will commit all necessary resources around the clock to resolve the situation.

Severity 2 (S2)—Operation of an existing network is severely degraded, or significant aspects of your business operation are negatively affected by inadequate performance of Cisco products. You and Cisco will commit full-time resources during normal business hours to resolve the situation.

Severity 3 (S3)—Operational performance of your network is impaired, but most business operations remain functional. You and Cisco will commit resources during normal business hours to restore service to satisfactory levels.

Severity 4 (S4)—You require information or assistance with Cisco product capabilities, installation, or configuration. There is little or no effect on your business operations.

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- Cisco Marketplace provides a variety of Cisco books, reference guides, and logo merchandise. Visit Cisco Marketplace, the company store, at this URL:

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- The Cisco *Product Catalog* describes the networking products offered by Cisco Systems, as well as ordering and customer support services. Access the Cisco Product Catalog at this URL:

<http://cisco.com/univercd/cc/td/doc/pcat/>

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- *Packet* magazine is the Cisco Systems technical user magazine for maximizing Internet and networking investments. Each quarter, Packet delivers coverage of the latest industry trends, technology breakthroughs, and Cisco products and solutions, as well as network deployment and troubleshooting tips, configuration examples, customer case studies, certification and training information, and links to scores of in-depth online resources. You can access Packet magazine at this URL:

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<http://www.cisco.com/go/iqmagazine>

- *Internet Protocol Journal* is a quarterly journal published by Cisco Systems for engineering professionals involved in designing, developing, and operating public and private internets and intranets. You can access the Internet Protocol Journal at this URL:

<http://www.cisco.com/ipj>

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